

EXHIBIT No. 7

Deposition of Bradley Probst

LaCroix v. Healy, et vir

September 18, 2018



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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
IN AND FOR THE COUNTY OF KING

KRISTIN LA CROIX,)
)
Plaintiff,)
)
vs.) No. 17-2-04131-9 SEA
)
LAURA JEAN HEALY AND JOHN DOE)
HEALY, individually and as wife)
and husband, and the marital)
community composed thereof,)
)
Defendants.)
)

DEPOSITION UPON ORAL EXAMINATION

OF

BRADLEY PROBST

Taken at 2601 Fourth Avenue, Floor 6
Seattle, Washington

DATE TAKEN: SEPTEMBER 18, 2018
REPORTED BY: ANITA W. SELF, RPR, CCR #3032

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SEATTLE, WASHINGTON; SEPTEMBER 18, 2018
9:19 A.M.
-o0o-

BRADLEY PROBST, witness herein, having been
first duly sworn on oath,
was examined and testified
as follows:

EXAMINATION
BY MR. PRINCE-OLSEN:

Q. Good morning, Mr. Probst. My name is Bryan Prince-Olsen. I'm one of the attorneys representing the plaintiff, Kristin La Croix, in this case.

You've been listed as an expert, so we're taking your deposition to find out what your testimony will be at trial. Have you ever been deposed before?

A. I have.

Q. All right.

And I'm sure your attorney has gone over this with you, but let me just give you a few ground rules for today's proceeding.

We have a court reporter who's taking down a transcript of everything that's being said in this room, so it's important that we speak one at a time to

1 (Pages 1 to 4)

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1 make her job a little easier.

2 Also, please make sure you give verbal
3 responses. It's difficult for her to note if you're
4 nodding your head or saying um-hmm or hmm-mm.
5 Okay?

6 A. We won't look at the transcript for those.

7 Q. If you ever don't understand my question,
8 will you let me know that?

9 A. Yes.

10 Q. Okay.

11 Otherwise, if you answer the question, is it
12 fair to assume that you understood what I asked?

13 A. Sure.

14 Q. Okay.

15 Can you please say and spell your full name
16 for the record?

17 A. Bradley William Probst, B-R-A-D-L-E-Y,
18 W-I-L-L-I-A-M, P-R-O-B-S-T.

19 Q. And what documents, if any, did you review to
20 prepare for this deposition?

21 A. Oh, more or less, my notes, a report I
22 generated, I think there's some statements as well,
23 photographs, and then there was also a report from
24 David Wells, so I think that's the majority of it.

25 Q. Okay.

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1 When you say you reviewed your notes, what
2 are you referring to?

3 A. Oh, just out of all the documents I reviewed,
4 I just have a couple of sheets of notes of who's
5 involved, a couple of things of interest, you know,
6 the year, make, model of the vehicle, a variety of
7 things like that.

8 Q. Are those handwritten notes?

9 A. No.

10 Q. Okay.

11 Are those notes contained in the file that
12 you provided to us?

13 A. Yes, they should be.

14 Q. Where could I locate those? Sorry, I don't
15 mean to make you go through your entire file, but what
16 do they look like?

17 A. It would say ARCCA Case Review --

18 Q. Got it.

19 A. -- on the top.

20 Q. Okay. Thanks. All right.

21 So other than the things that we've just
22 described, did you review anything else for today's
23 deposition?

24 A. Other than I looked at -- at ARCCA, we have
25 done some testing on a Yakima bicycle rack, so I

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1 looked up that specific rack relative to the rack
2 involved in this incident, and what kind of force
3 versus displacement was involved in that testing.

4 MR. PRINCE-OLSEN: Let's start with this.
5 We'll have this marked as Exhibit 1, please.
6 (Exhibit No. 1 was marked.)

7 BY MR. PRINCE-OLSEN:

8 Q. And can you tell me, is this a true and
9 accurate copy of the report that you're providing in
10 this case?

11 A. It appears to be, yes.

12 Q. If you could turn to page 2 of that report,
13 please. Under Information Reviewed, could you just
14 take a look at that and let me know if there's
15 anything that you've reviewed either at the time that
16 you were drafting this report or after, that in any
17 way your opinions are based on?

18 A. Oh, as I said, I reviewed some additional
19 testing on bike racks; however, it doesn't alter my
20 opinions. It was just more for further confirmation
21 of my opinions. And I don't believe that I had any
22 additional documents after that, after issuing my
23 report.

24 Q. In the way that you in your report have
25 citations for various studies, could you provide me

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1 with a citation for the ARCCA studies related to the
2 Yakima bike rack that you reviewed?

3 A. Oh, I could send the data files over. They're
4 more or less Excel spreadsheets, but if you print them
5 out, they're several hundred pages long. But we could
6 certainly give you a digital copy.

7 Q. Okay. That would be great, if you could just
8 give that to Mr. Dawson.

9 A. Sure.

10 Q. Did you review -- in formulating your report
11 or your opinions for your report, did you review any
12 of Ms. La Croix's medical records?

13 A. No, I don't believe I had any -- her medical
14 records of any sort.

15 Q. Do you know what injuries Ms. La Croix is
16 alleging she sustained in this collision?

17 A. Honestly, I don't recall as I sit here today
18 if that was in any of the -- in the complaint. It
19 just wasn't something I looked at or memorized.

20 Q. And you've never met Ms. La Croix, correct?

21 A. Not to my knowledge.

22 Q. Have you taken any measurements of
23 Ms. La Croix seated in her vehicle?

24 A. I have not.

25 Q. I want you to turn to page 4 of your report.

2 (Pages 5 to 8)

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1 In the first paragraph there after the photo, you talk
2 about the Insurance Institute for Highway Safety and
3 testing on -- low-speed tests to assess the
4 performance of the vehicles' bumpers.

5 Do you see that?

6 A. I do.

7 Q. Is it your understanding that those studies
8 involve collisions that are -- have a bumper-to-bumper
9 contact?

10 A. I believe in this specific protocol, it was a
11 bumper to a simulated bumper.

12 Q. And what is a simulated bumper?

13 A. Oh, instead of just having another vehicle,
14 they, in essence, have something that mimics a bumper
15 mounted to a rigid barrier.

16 Q. So something that acts like a bumper?

17 A. Correct.

18 Q. Okay.

19 And something that's designed to take force
20 in the way that a bumper would take force?

21 A. More than just a rigid wall, so, yes,
22 something that mimics the height and curvature and
23 some of the other characteristics of a vehicle bumper.

24 Q. Do you know if, in any of the IIHS
25 simulations or tests with the simulated bumper, if any

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1 the bumper and frame of the vehicle, so if you're
2 pushing on the bumper, it's in essence the same as
3 pushing on a bike rack.

4 And in that stage testing, you get more
5 damage, or damage beyond the liftgate, so it just
6 tells us that the 6.2 mile per hour test speed, you
7 get greater damage than what we had in this incident.

8 And then finally, as I said, we, at ARCCA,
9 have conducted testing to -- drawing a blank -- the
10 Yakima bike rack, and it actually shows that the
11 Delta-V would probably be even much less significant
12 than what we noted in the reports, based off of force
13 deflection, or basically bending of a bike rack until
14 it hits the rear window and hatch.

15 Q. So at trial, it will be your testimony -- I'm
16 sorry -- will your testimony be that the Delta-V in
17 this case was significantly less than 7.9 miles per
18 hour? Or will you have a different calculation given
19 the ARCCA studies you saw on bike racks?

20 A. Well, based off of the damage to the bike rack
21 in this incident and testing we've done on, in
22 essence, the same bike rack, I think -- I don't
23 remember the number off the top of my head, but it
24 places it closer to about a 5 mile per hour Delta-V,
25 so, yes, that would be significantly less than the 7.9

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1 of those involved a simulated bumper that had a bike
2 rack?

3 A. They do not conduct testing such as that, to
4 my knowledge.

5 Q. Can you describe for me how you arrived at
6 your opinion that the Delta-V, or change of velocity
7 in this case was significantly less than 7.9 miles per
8 hour?

9 A. Oh, certainly, yes.

10 Q. Oh, sorry.

11 Can you -- will you now --

12 A. Sure.

13 Q. -- will you describe it for me?

14 A. Well, we looked at this a couple different
15 ways. One, obviously the damage to both vehicle
16 [sic], the lack of damage to -- or any significant
17 damage to the Ford Flex. In addition, the lack of
18 airbag deployment in the Ford Flex indicates that it
19 was generally below 8 to 14 miles per hour for that
20 vehicle.

21 We have the Insurance Institute for Highway
22 Safety empirical test data, and we can actually use
23 that because the way the vehicle is designed, if
24 you're pushing on the bicycle rack, the bicycle rack
25 is mounted into a receiver hitch, which is mounted to

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1 we note.

2 Q. Have you examined the actual bike rack that
3 was involved in the subject collision?

4 A. Other than the photographs, I have not, no.

5 Q. And you haven't examined either of the
6 subject vehicles involved in the collision, right?

7 A. Again, we had multiple repair estimates and
8 photographs and statements, but I did not lay hands on
9 the vehicle.

10 Q. On that same page in the next paragraph, the
11 paragraph that begins: By the laws of physics, the
12 roughly second sentence there, it says: Therefore,
13 the average acceleration experienced during the rear
14 impact by the subject Honda Odyssey was significantly
15 less than 2.4 Gs.

16 Do you see that?

17 A. I do.

18 Q. Can you tell me, why do you look at the
19 average acceleration in forming your opinions? What's
20 important about the average acceleration?

21 A. Oh, you could look at this either in peak or
22 average, but a number of researchers in the field of
23 biomechanics and rear-end impacts note the -- there's
24 an association with the average acceleration and
25 injury potential. So it's -- it can be more

3 (Pages 9 to 12)

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1 appropriate to use average just because that's what's
2 done in the literature.

3 And also, if you look at how an impact occurs,
4 the force obviously starts at zero, increases to some
5 maximum, and then decreases to zero once again in, in
6 essence, the shape of a bell curve. So to say it's a
7 peak is pulling out one instantaneous moment in time,
8 where the average is giving you a more fair
9 representation of the overall event, so --

10 **Q. Right.**

11 **And I will -- I will admit to you a limited**
12 **scientific understanding, but wouldn't peak**
13 **acceleration be the most significant acceleration at**
14 **any point during the course of a collision?**

15 A. No, it would be the highest of magnitude, but
16 not necessarily the most significant.

17 **Q. Okay.**

18 **So couldn't injury occur -- well, isn't it**
19 **possible that an injury could occur at the moment that**
20 **the magnitude is the highest?**

21 A. Well, that's a very open-ended question, so it
22 would depend on what injury, what magnitude, a variety
23 of things like that, but in -- not in essence, but the
24 human body is more equipped to withstand accelerations
25 for a very brief amount of time. But if the

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1 acceleration is applied for a longer period of time,
2 then it has a higher potential for injury.

3 **Q. But someone could, in fact, be injured during**
4 **the height of magnitude in a collision, correct?**

5 A. Well, again, you have an incomplete
6 hypothetical, so I can't say yes or no to that.

7 **Q. Is there any circumstance in which you**
8 **believe a person could suffer injury at the moment**
9 **that the magnitude is the highest in a collision?**

10 MR. DAWSON: Object to form. Answer if
11 you can.

12 A. Well, again, it's an incomplete hypothetical.
13 I don't know what type of --

14 BY MR. PRINCE-OLSEN:

15 **Q. Well, I'm asking you to complete the**
16 **hypothetical. Is there any hypothetical situation in**
17 **which you can envision someone being physically**
18 **injured during the moment of peak magnitude?**

19 MR. DAWSON: Same objection.

20 A. Well, certainly, if you have an incredibly
21 high-energy event where the force greatly exceeds the
22 tolerance level of that unique individual, certainly
23 there is potential there.

24 But without knowing really who you're talking
25 about in this hypothetical, what type of vehicle, what

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1 type of forces or anything else, there's really no way
2 of saying. But certainly we know people are injured
3 when force is applied. So, yes, there has to be a
4 point where somebody is injured.

5 BY MR. PRINCE-OLSEN:

6 **Q. Okay.**

7 **So to complete the hypothetical, you would**
8 **need to know other data points such as that unique**
9 **individual's susceptibility to injury?**

10 A. Possibly. Again, your hypothetical is so
11 incomplete, I can't even say what I would or wouldn't
12 need.

13 **Q. In order to know if a particular person could**
14 **be injured during peak magnitude, what would you need**
15 **to know about that individual?**

16 A. Again, I'd have to know more about the event,
17 the environment, the forces involved, a variety of
18 things like that.

19 **Q. Yeah.**

20 **What would you need to know about the**
21 **individual specifically?**

22 A. I would still have to know about the event,
23 then know what I need to know about the individual.
24 So without knowing anything more about the event or
25 what's actually being claimed, I can't tell you what

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1 would need to be known about the individual either.
2 It's kind of a whole system. You can't just pick one
3 or the other.

4 **Q. All right.**

5 **So in order to arrive at accurate conclusions**
6 **about someone sustaining injury in an accident, it**
7 **sounds like you've said it's a whole complete picture.**
8 **You can't look at just the collision forces and you**
9 **can't look at just individual factors; you really need**
10 **to know both?**

11 A. Well, more that I can't answer your question
12 because it's incomplete. So, in general, when we're
13 doing a biomechanical analysis, we try to gather as
14 much data as possible.

15 **Q. Well, in an ideal world, if you had anything**
16 **available to you, what else would you have wanted to**
17 **view or examine in order to formulate your opinions in**
18 **this case?**

19 A. I don't think there was anything else that I
20 required to reach the opinions that I did.

21 **Q. So if you had had them available to you, you**
22 **would not have wanted to review Ms. La Croix's medical**
23 **records?**

24 A. I'm not offering any medical opinions. There
25 might be some additional description in there of what

4 (Pages 13 to 16)

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1 did or did not occur that might allow for further
2 confirmation, but I had more than enough information.

3 **Q. And that brings me to a point about**
4 **essentially all of page 4 and page 5 of your report.**
5 **It appears to me, in reading this, that you're looking**
6 **at averages, but not discrete cases; is that correct?**

7 A. I'm not sure if I'm following you. I analyzed
8 this specific event to see what the forces -- the
9 magnitude of the forces were in this specific event
10 and what would be applied to Ms. La Croix.

11 **Q. Is it your opinion that Ms. La Croix**
12 **experienced any rebound into her seat as a result of**
13 **this collision?**

14 A. Just making sure I understand your question.

15 Do you mean rebound away from her seat, so
16 there's some prior contact and subsequent movement?

17 **Q. That's correct.**

18 A. So -- well, I think we noted in the report on
19 page 5 that she would move rearward due to contact, or
20 tend to move rearward due to contact from the other
21 vehicle; therefore, she is going to go rearwards
22 towards her seat.

23 **Q. So is that a yes?**

24 A. Well, I wouldn't call that rebound. That's
25 just, she's moving rearward due to the contact to the

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1 rear of her vehicle. Or, in essence, what's really
2 occurring, if you remember Sir Isaac Newton's basic
3 laws of physics, an object at rest tends to stay at
4 rest unless acted upon. She, relative to the vehicle
5 is at rest, the vehicle is acted upon, it wants to
6 move forward while she remains at rest, so relative to
7 the vehicle, she moves rearward.

8 **Q. What -- what Delta-V or collision forces**
9 **would have been required in this case to result in**
10 **Ms. La Croix sustaining injury?**

11 MR. DAWSON: Object to form. You can
12 answer if you can.

13 A. Oh, I wasn't asked to analyze that, so I don't
14 have any opinions to that regard.

15 BY MR. PRINCE-OLSEN:

16 **Q. Well, I'm asking you if you can give an**
17 **opinion in that regard.**

18 **What amount of force would have been required**
19 **in this case to have caused Ms. La Croix to sustain**
20 **injury?**

21 MR. DAWSON: Same objection.

22 A. Again, I have not analyzed that so I cannot
23 answer it.

24 BY MR. PRINCE-OLSEN:

25 **Q. What information would you need to analyze to**

Page 19

1 **be able to answer that question?**

2 A. Oh, I guess I would start with some of the
3 medical records, but I would have to see what
4 additional documents might be required from reviewing
5 those. Again, I haven't even begun to look at that or
6 done any work to that regard, so I don't honestly know
7 what I would or would not need.

8 **Q. That's okay.**

9 **We have a starting point that we'd want to**
10 **look at some of the medical records and why. Why**
11 **would we want to look at some of the medical records?**

12 A. Well, if we know what kind of biomechanical
13 failures have been claimed to occur, then we can
14 determine what kind of mechanism is required to create
15 that, meaning both what magnitude and what direction
16 or force application would be required, and that's
17 just a basic starting point.

18 **Q. In reviewing a person's medical records to do**
19 **an analysis like that, would it be important for you**
20 **to know if that person had any prior injuries or any**
21 **other conditions that might make them particularly**
22 **susceptible to injury?**

23 A. Possibly. Again, it depends on what's being
24 claimed, what type of event we're analyzing. And
25 certainly a lot of preexisting conditions or prior

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1 conditions are noted in the medical records, so it
2 might have been included in that. And, again,
3 depending on the magnitude of the event, that might
4 not come into play.

5 **Q. Okay.**

6 **But worth -- you would agree that it's worth**
7 **taking a cursory look at?**

8 A. Certainly you would like to look at this
9 individual and see, you know, who you're dealing with.
10 If you're looking at a unique individual in a unique
11 event, you would like to have some understanding of
12 that individual.

13 **Q. And sitting here today, you don't have an**
14 **understanding of the injuries claimed or the prior**
15 **medical history of the unique individual in this case,**
16 **Kristin La Croix?**

17 A. Correct. I'm not offering any opinions on
18 whether or not any type of injury or biomechanical
19 failures actually occurred. I'm opining on the
20 forces, kinematics, and giving a trier of fact some
21 better understanding of what this event would be --
22 you know, what they might compare it to, and some
23 other real-world activities that they might have
24 experienced or something that they can relate to. Not
25 everybody's been in a motor vehicle accident or knows

5 (Pages 17 to 20)

Page 21

1 what 2.4 Gs actually is, or a variety of things like
2 that.

3 **Q. Could you go to -- it's page 6 in your**
4 **pagination or 37 in the pagination in the bottom**
5 **right.**

6 A. Okay.

7 **Q. Could you just review your conclusions for**
8 **me -- I'll give you a minute -- and let me know if**
9 **there's anything that you'll be testifying to at trial**
10 **that differs from what is listed in your conclusions**
11 **in this report?**

12 A. Oh, again, aside from number 2 where we say
13 the severity of the rear impact during the subject
14 incident was significantly below 7.9 miles per hour,
15 with an average acceleration less than 2.4 Gs, again,
16 it's not changing because it's still below, but it's
17 probably closer to, I think, 5 miles per hour; in a
18 peak acceleration, less than -- oh, it's getting
19 closer to 1 G.

20 So, again, it's not changing anything. It's
21 still below all of that. But we might have a
22 different value for the Delta-V in acceleration.

23 **Q. Okay.**

24 **And what you just said, you said the peak**
25 **acceleration is getting closer to 1 G, what would the**

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1 **to your report that reflects the changes in your**
2 **opinions following your testing of the bike rack?**

3 A. I don't plan to, but, you know, if I'm asked,
4 I probably would certainly provide one. But at this
5 point, I've not been asked to provide a supplemental
6 report.

7 **Q. Can you describe for me, when you talk about**
8 **the testing that you did on the bike rack, what did**
9 **that testing entail?**

10 A. Oh, taking a bike rack, a receiver hitch
11 rigidly mounted to a hydraulic test fixture that
12 allows you to both measure the force and displacement
13 of the bike rack as you apply, you know, increasing
14 force to it until failure occurs.

15 **Q. And what does failure look like?**

16 A. Oh, just -- I guess, in essence, two separate
17 criterion; one where you have permanent deformation,
18 and, two, such that you would have contact with the
19 vehicle or contact similar to what we have. So enough
20 displacement that the bike rack is permanently
21 displaced and contacting the vehicle.

22 **Q. And is it your opinion that failure in the**
23 **way that you just defined it here occurred in this**
24 **case as a result of the collision?**

25 A. Oh, certainly, yes.

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1 **average acceleration be?**

2 A. Oh, again, if we just simply, well, halve
3 that, then we're going to get down to what the average
4 acceleration would be, right?

5 **Q. So having what, 2.4, so you're looking at 1.2**
6 **average? Or I'm sorry. I'm not clear.**

7 A. No. If we're looking at the way conclusion
8 number 2 is written, if I wrote it to have a peak
9 acceleration instead of average acceleration, for that
10 same 7.9 miles per hour, we would say the peak
11 acceleration was less than roughly 4.8 Gs.

12 But based off of the testing of the bike rack,
13 the peak acceleration is actually closer to 1 G. So,
14 again, pretty significantly below.

15 **Q. Okay.**

16 **Other than what we just talked about with**
17 **respect to number 2, any other changes in your**
18 **opinions? Or do those appear to be what your**
19 **conclusion will be that you'll testify to at trial?**

20 A. Unless I have received some additional
21 information or something changes with documents that
22 I'm unaware of, I don't plan on offering any different
23 opinions.

24 **Q. Okay.**

25 **Do you plan on providing a written addendum**

Page 24

1 **Q. Okay.**

2 **So the bike rack, as a result of this**
3 **collision, suffered permanent deformation and had**
4 **contact with the vehicle?**

5 A. Correct.

6 **Q. Moving to opinion number 4, you say: The**
7 **acceleration experienced by Ms. La Croix in this**
8 **incident was well within the limits of human**
9 **tolerance.**

10 **Can you just describe for me what you mean**
11 **when you say that the acceleration experienced was**
12 **well within the limits of human tolerance?**

13 A. Oh, sure. If you look back, I think, at the
14 bottom of page 4, we list -- we start with a few
15 things: Just simply that hard brake application can
16 be .7 to .8 Gs, so below 2.4 Gs, but just gravity
17 itself is 1 G. And then if you start to do any
18 movement, you know, climbing stairs, standing on one
19 leg, a variety of things like that, you can certainly
20 see multiple Gs, and doing something as simple as
21 doing a jumping jack, you can see 3 Gs of force.

22 So it's not anything that you might see just,
23 you know, going about your day-to-day life, exercise
24 or work or a variety of things like that. And it's
25 certainly possible you could see that just while

6 (Pages 21 to 24)

Page 25

1 driving a vehicle. I don't know if I listed here, but
2 hitting potholes and speed bumps and a variety of
3 things like that could easily get up to 2 to 3 Gs,
4 again, depending on the size of a pothole or speed
5 bump and the speeds involved.

6 **Q. But you'd agree that all the activities that**
7 **you just described at least have injury potential for**
8 **a discrete individual, right?**

9 A. I don't know of any individuals who really
10 just suddenly suffer some catastrophic failure simply
11 by walking unless they misstep or something else is
12 occurring. But just through normal gait, you know,
13 normal activity, it -- things such as disc herniations
14 certainly do not occur at those magnitudes. Again,
15 certainly you can roll an ankle or something like
16 that, but that's a little bit different.

17 **Q. Okay.**

18 **But you mentioned a jumping jack. Is it your**
19 **opinion that a discrete individual could not be**
20 **injured with the forces that are applied to the body**
21 **in a jumping jack?**

22 A. Again, if you're just jumping and not slipping
23 and falling and rolling your ankle, no. It's just --
24 unless you had a highly unique individual, maybe
25 somebody who had just had some significant surgery,

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1 a rigid cast, certainly they could be reinjured by
2 doing a jumping jack. So that would be a much -- you
3 know, a highly unique individual.

4 **Q. Sure.**

5 **So you really need to know things about that**
6 **unique individual and not the average population**
7 **performing jumping jacks, right?**

8 A. If we're analyzing a specific individual and a
9 specific incident, yes.

10 **Q. Okay.**

11 **And we are in this case analyzing a specific**
12 **incident and a specific individual, are we not?**

13 A. I'm, again, looking at the forces and
14 comparing those forces to a variety of other
15 activities. Again, I'm not offering any opinions on
16 biomechanical failures or causation.

17 **Q. Can we look at -- it's attached to your**
18 **report -- your CV? It should be the last few pages.**

19 **Do you see that?**

20 A. I do.

21 **Q. I want to ask you about your educational**
22 **background. Can you tell me what it means when it**
23 **says in your academic background Ph.D. Candidate at**
24 **Tulane University?**

25 A. Sure. I was at Tulane during the time of

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1 but, in essence, if you can get out of bed and go
2 about day-to-day life, you could withstand a jumping
3 jack.

4 And, again, if jumping jacks caused any type
5 of significant biomechanical failure, I don't know how
6 much physical education is done in schools anymore,
7 but it's been done for decades and decades in
8 elementary school and middle school and high school
9 and gyms and everywhere else, you would have an
10 unlimited number of people having significant trauma
11 by doing a benign task.

12 **Q. Okay.**

13 **But you keep going back to this unique**
14 **individual, and I'll grant you that, with respect to**
15 **the jumping jack, you said it would be highly unique**
16 **individual.**

17 **But your testimony, if I'm understanding it**
18 **correctly, is, if you had a highly unique individual,**
19 **it is possible that a discrete individual could be**
20 **injured as a result of the forces applied to the body**
21 **in a jumping jack.**

22 A. Sure. You would have to, again, have somebody
23 who is highly unique. Again, had they had some very
24 significant trauma, let's say they just broke their
25 bone in their leg and it's not been set or not wearing

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1 Hurricane Katrina, and because of that, school was
2 closed for, I think, at least a year, if not longer.
3 Members of faculty left, including members of my
4 committee, and because of that, while I had completed
5 all the educational requirements, testing, research,
6 teaching, anything that would be required except for
7 defending my dissertation, because of that delay, I
8 just did not pursue my Ph.D. beyond or to defend my
9 dissertation, but I completed all the other academic
10 requirements.

11 And so if you look at the guidelines from
12 Tulane, the School of Biomedical Engineering, the text
13 or the guidebook, the level I achieved -- or if I were
14 to reenter school, I would be considered a Ph.D.
15 candidate. So it's just a succinct way of saying what
16 I had accomplished during my time at Tulane.

17 **Q. Okay.**

18 **And Tulane to this day continues to have a**
19 **biomedical engineering program, right?**

20 A. I believe so, yes.

21 **Q. Okay.**

22 **And that program is still awarding Ph.D.s,**
23 **correct?**

24 A. I haven't been following it, but I assume
25 that's -- that's still the case.

7 (Pages 25 to 28)

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Q. And as far as you know, Tulane is open and the department's open were you to decide to defend your dissertation, correct?

A. Correct.

MR. PRINCE-OLSEN: Let me get this marked, please, Exhibit 2.

(Exhibit No. 2 was marked.)

BY MR. PRINCE-OLSEN:

Q. Mr. Probst, I'm handing you Exhibit 2, which I believe is also in your file, and I will represent to you is the report of accident reconstructionist David Wells.

Have you examined this report before?

A. I have.

Q. Okay.

And I won't ask you to, like, review this in its entirety at this moment, but do you recall, from when you reviewed this, if there was anything about this report that you disagreed with?

A. Oh, not -- no, not to any real degree. We both said that, you know, it's -- he has, I think, 8.9 miles per hour for the maximum speed, but that's -- I think he has that as an impact speed and has a Delta-V slightly below that.

But I -- when analyzing any incident like

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structure, if you will, so it still can have bumper loading, I guess, is the most fair way to describe it. BY MR. PRINCE-OLSEN:

Q. Sure.

But would you expect to see permanent bumper deformity where there was not bumper-to-bumper contact?

A. If you have forces applied, even if it's indirectly, I would expect it based off of the empirical crash data for the Honda, yes.

Q. And I'm sorry.

Why -- why would you expect to see permanent deformity to the rear bumper of the Honda?

A. Well -- and maybe this is the easiest way to describe it -- that in a 6.2 mile per hour rear-end impact to a Honda Odyssey, you get damage to the rear -- I just want to make sure I'm using their exact same terminology -- but the floor of the rear body has some damage.

So obviously, then, the bumper would be mounted to structures that attach to the floor. If the floor is deformed, you're deforming the rear bumper as well.

And so if you're pushing on the back of the vehicle, you can still deform the floor. Whether

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this, I always give the benefit of the doubt to the opposing side and try to make it the most severe event that I possibly can.

Q. So you don't -- you don't disagree with his calculation of the impact speed or the Delta-V then?

A. No. Again, I think I said it was below 7.9 miles per hour, and he has it, you know, 5.9 miles per hour, so I'd still -- you know, it's certainly below the 7 miles per hour, so we're in agreement.

Q. In both your report and in Mr. Wells' report, there's a reference -- it may not be worded the same way, but both of you refer to the fact that there was no residual crush to the rear bumper of Ms. La Croix's vehicle; is that correct?

A. I don't recall if he says that, but I don't believe that there was any significant permanent deformation to the bumper, correct.

Q. Okay.

But this wasn't a bumper-to-bumper impact as we've discussed, correct?

MR. DAWSON: Object to form. Answer if you can.

A. It was not a direct bumper-to-bumper impact because the bike rack was in between. However, you can still apply loads and forces to the bumper

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you're pushing on the back through the bumper, through the receiver hitch or through the receiver hitch and directly through a bike rack, it's all still going to the floor one way or the other.

Q. Okay.

MR. PRINCE-OLSEN: Can I have this marked, please, Exhibit 3?

(Exhibit No. 3 was marked.)

BY MR. PRINCE-OLSEN:

Q. Mr. Probst, this is an email from your file from Mr. Dawson. I just want you to look at the second paragraph there. Could you just read the first line of that second paragraph to me, please?

A. The one that begins "I realize"?

Q. Yes.

A. "I realize that it is difficult to perform any detailed or thorough analysis without being able to examine/inspect the actual rack itself."

Q. And would you agree with that statement?

A. No.

Q. Why not?

A. Because it's not difficult to do.

Q. What is not difficult to do?

A. To analyze what type of forces would be required to cause the deformation to the rack in this

8 (Pages 29 to 32)

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1 incident. It might be difficult to somebody who
2 doesn't have testing background or an engineering
3 background, but for somebody like myself, it's not a
4 difficult task.

5 **Q. If the bike rack -- the subject bike rack**
6 **were still in existence, would you want to examine it?**

7 A. Oh, it would certainly, you know, be nice, and
8 then I can answer questions in affirmative that, yes,
9 I have inspected it. Again, it's not necessary,
10 but -- it certainly would allow me to possibly be more
11 precise, but not any more accurate in my analysis.

12 MR. PRINCE-OLSEN: So let's just take,
13 like, a five-minute break. Let me just look at my
14 notes and we might be done.

15 THE WITNESS: Sure.

16 (A break was taken from
17 10:03 to 10:09 a.m.)

18 BY MR. PRINCE-OLSEN:

19 **Q. Mr. Probst, is it your opinion that the**
20 **Delta-V that you opine occurred in this case would**
21 **have been sufficient to cause the front seat belt**
22 **locking mechanism that Ms. La Croix was using to**
23 **engage?**

24 A. The front seat belt would lock by Federal
25 Motor Vehicle Safety Standards, correct.

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1 **Q. What is the threshold at which the locking**
2 **mechanism in a seat belt is supposed to engage?**

3 A. It's .7 Gs; however, because there's some
4 other scenarios that can lock the seat belt, it could
5 be as slow as .3 G, but .7 G is a safe number.

6 **Q. And, again, you haven't seen any photos or**
7 **done any measurements of Ms. La Croix actually seated**
8 **in her vehicle, correct?**

9 MR. DAWSON: Object to form. Answer if
10 you can.

11 A. I do not have any photographs of her seated in
12 the vehicle, correct.

13 BY MR. PRINCE-OLSEN:

14 **Q. Would it be important for you to know, for**
15 **example, where the seat belt crossed her body to know**
16 **how her body individually might have sustained the**
17 **forces in this collision?**

18 A. No. Again, in this particular incident, the
19 primary means of restraint is the seat, seat back and
20 head restraint, because the occupant tends to move
21 rearward. And then, you know, that's really the --
22 again, the primary means of restraint. So you're, in
23 essence, moving away from the seat belt at that point
24 in time.

25 **Q. Do you believe the forces in this collision**

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1 **were sufficient to cause Ms. La Croix, after moving**
2 **backward toward the seat, to then be moved in a**
3 **forward fashion?**

4 A. Well, obviously the vehicle came to a stop
5 after this incident, so there had to be some
6 deceleration of her vehicle through a brake
7 application. But she would move, in essence, no
8 different than somebody would be moving during any
9 other brake application.

10 **Q. Which is to say, backward, then forward?**

11 A. Potentially. I mean, it could be highly
12 insignificant forward motion. I'm not sure if an
13 average person, if you asked them: Define how they
14 move when they apply the brakes in their vehicle, if
15 they would say they move at all. But the potential,
16 because there is forces in that direction due to brake
17 application, could be there. But you also have your
18 foot on the brake, hands on the steering wheel, muscle
19 activation and the seat belt itself.

20 **Q. Okay.**

21 **But in this collision, the forces were**
22 **sufficient for at least the potential of**
23 **Ms. La Croix's body to have moved appreciably forward**
24 **after first having moved backward?**

25 MR. DAWSON: Object to the form. Answer

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1 if you can.

2 A. You would have to define "appreciably."

3 BY MR. PRINCE-OLSEN:

4 **Q. Let's say enough for her to notice. You**
5 **mentioned that some people wouldn't notice that**
6 **movement, but enough for her to notice.**

7 A. I'm not sure if I can give a fair scientific
8 answer to that in the sense that we're now discussing
9 somebody's perception, and somebody might perceive
10 that they moved when, in fact, they did not. And so
11 certainly somebody might have that perception, but it
12 might not necessarily mean that they moved at all.

13 **Q. Okay.**

14 **Let's take away someone's perception, then,**
15 **and just ask: Do you think there were forces in this**
16 **collision sufficient to cause Ms. La Croix's body to**
17 **move first backward and then forward?**

18 A. Now we're asking a slightly different question
19 than what you asked previously, but certainly based
20 off of the magnitude of the contact to the rear of the
21 vehicle, you could have some rearward motion. And
22 then, again, if this individual moves normally forward
23 during brake application, then that might occur as
24 well.

25 But if you're asking, do they spring off of

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1 the seat or trampoline or anything like that,
 2 that's -- that certainly does not happen based off of
 3 physics and seat design and a variety of other
 4 reasons.

5 MR. PRINCE-OLSEN: All right. I have no
 6 further questions.

7 MR. DAWSON: Nothing from me.

8 (Deposition concluded at
 9 10:14 a.m.)

10 (By agreement between counsel and
 11 witness, signature was waived.)
 12

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1 CERTIFICATE
 2

3 STATE OF WASHINGTON)
) ss.

4 COUNTY OF KING)
 5
 6

7 I, ANITA W. SELF, a Certified Shorthand
 8 Reporter in and for the State of Washington, do
 9 hereby certify that the foregoing transcript is true
 10 and accurate to the best of my knowledge, skill and
 11 ability.

12 IN WITNESS WHEREOF, I have hereunto set my hand
 13 and seal this 26th day of September 2018.
 14

15
 16
 17 *Anita W. Self*

18 ANITA W. SELF, RPR, CCR #3032
 19
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 22
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